Passing the test

ENCOURAGING DOCTORS TO USE PATHOLOGY TESTS WISELY IS NOT ONLY ABOUT COST CONTROL – IT IS CENTRAL TO QUALITY MEDICAL PRACTICE, WRITES **TONY JAMES**.

Judy, 54, complains to her GP of tiredness, headaches, mild nausea and bloating. It is suggested that some blood tests might help sort out the problem.

The list of possible diagnoses could run into the hundreds, but it is a scenario faced by GPs every day in their routine practice. If a significant illness exists, the possibilities could range from depression to ovarian cancer.

Ordering "some tests", funded from Australia's Medicare budget of $1.6 billion, might ultimately be appropriate, but in keeping with good medical practice it should not be the first step in making a diagnosis. Medical practitioners should always start with taking thorough and skilled history of the problem the patent presents with," according to Dr Matthew Meerkin, a Sydney-based chemical pathologist. "Next a thorough physical examination of the patient should occur. It is only then that thought should be given to appropriate investigations, such as pathology and diagnostic imaging that need to be requested."

A recent study has shown that in at least 70% of diagnoses, pathology tests are involved in making that diagnosis. It is important though to request the right test at the right time. For example, if a GP orders a profile of 20 different tests in a healthy individual, most of these results will be normal. There is however a two in three chance that at least one result will be 'abnormal' but usually these are of no clinical significance.

Dr Meerkin is editor of *Common Sense Pathology*, a bi-monthly series published on behalf of the Royal College of Pathologists of Australasia (RCPA). It is one of several initiatives aimed at improving the quality use of pathology services, which has emerged as a major issue for both Federal and State governments, the RCPA, the medical profession and consumers.

It is tempting to attribute concerns about pathology tests to a narrow focus on cost control, but the concept is also central to quality medical practice. Dr Debra Graves, CEO of the RCPA and herself a Doctor, says appropriate use of pathology tests might require an increase in the use of some tests but less use of others. For example, some diseases remain under-diagnosed in Australia, and increased testing of people at risk would facilitate earlier treatment and better outcomes.

Pathology tests can be used for a number of purposes – to assist with the initial diagnosis of a disease, to monitor the progress of the condition or its treatment, or in preventive medicine to identify people at high risk (for example,

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with elevated cholesterol levels in the presence of other cardiovascular risk factors). GPs order about 70 per cent of Medicare-funded tests. Investigations ordered by hospital-based specialists and doctors in training are funded by state-based hospital budgets and amount to about another $1 billion a year.

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Continuing education throughout doctors' professional lives is the key to quality use of pathology services, she says.

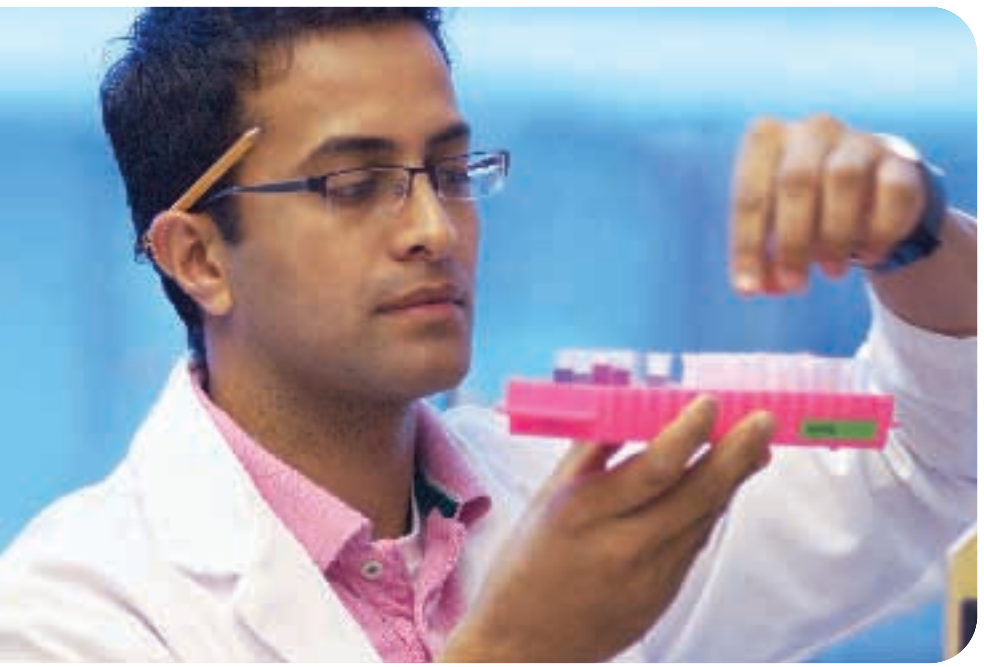
Common Sense Pathology is now in its 20th year, although it has had some "rests" during that time because of funding difficulties. It is now published as a joint initiative between the RCPA and the weekly medical newspaper Australian Doctor, supported by funding from the Commonwealth Government.

Dr Meerkin says *Common Sense Pathology* has been extremely well received by its primary target audience, GPs.

"It is based very strongly on practical case studies that are relevant to GPs," he says. "We concentrate on conditions that are difficult to diagnose, require complicated thought processes and rely at least partly on investigations."

Topics covered this year include recent advances in the diagnosis and management of viral hepatitis, malabsorption (for example coeliac disease and inflammatory bowel disease), genital tract infection, and lipids and cardiovascular disease.

A recent issue discussed the diagnosis of urinary tract infection in adults. It challenged the traditional practice of ordering urine microscopy, bacterial culture and susceptibility testing for this common problem. Instead, it proposed that uncomplicated cases can be diagnosed on the basis of history and simple urine dipstick tests in the surgery and then treated immediately.



As well as *Common Sense Pathology*, College educational initiatives include the comprehensive *Manual of Use and Interpretation of Pathology Tests*, developed by a committee chaired by New Zealand anatomical pathologist Professor Brett Delahunt. The Manual is freely available online (http://www.rcpamanual.edu.au), including a version downloadable to PDAs.

It provides useful and accessible guidelines on selecting pathology tests and interpreting the results. Its first section lists specific clinical problems and the tests that might be appropriate. "Consideration must always be given to the individual clinical situation," the Manual notes. "Tests should never be ordered as a 'routine' or 'screen'. An important principle is to request tests only when the results will contribute to diagnosis and/or management."

The second section lists the details of individual tests, including the specimens needed, the clinical application and their interpretation. A regular fact file called "From the lab" published in *Medical Observer* and a similar regular feature in *New Zealand Doctor* complement these educational initiatives.

Brisbane pathologist Dr Michael Harrison chairs the Quality Use of Pathology Committee which oversees the Quality Use of Pathology Program within the Department of Health and Ageing. The program aims to promote education of referrers, providers and consumers to support best practice in requesting, interpreting and following up pathology tests. The committee has produced a series of reports on the topics ranging

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from the feasibility of developing clinical practice guidelines for test ordering in common clinical presentations such as tiredness, the potential of IT based decision support systems to facilitate better use of tests, and how results can best be reported to and used by referring doctors. The committee includes representatives of the AMA, GPs, medical faculties, medical colleges, consumers, health informatics specialists, pathologists and the RCPA.

"We have some evidence on how pathology tests are used in Australia, but we need more," Dr Harrison says.

Information from the Health Insurance Commission on Medicare-funded tests provides broad patterns but has a number of deficiencies, including lack of information on the reason for the test and grouping multiple items under a single Medicare Benefits Schedule item.

The past BEACH (Bettering the Evaluation of Care of Health) surveys provide more detailed information from representative samples of GPs. Each year about 1,000 GPs complete reports on 100 consecutive consultations. Information collected from 1998 to 2001 was summarised in a report on pathology testing published in 2003. Covering about 300,000 consultations and 80,000 pathology requests, it revealed a marked 20% increase in investigations even during that short time, resulting mainly from more tests being ordered for each clinical problem. The greatest increase was in chemical pathology, with smaller but significant increases in haematology and histopathology. There were increases in investigations for patients presenting with these five commonly-managed problems: hypertension, diabetes, menopausal symptoms, ischaemic heart disease and cardiovascular check-ups. Just sixteen tests accounted for 75 per cent of all requests, emphasising the fact that high-volume, low-cost tests account for the majority of expenditure.

GPs who were younger, female, and worked part-time, in larger practices and in rural or remote locations ordered more tests.

"It's not possible to say whether more tests are appropriate or inappropriate, without knowing the full details for each request," Dr Harrison says. "Doctors who ordered more pathology tended to prescribe less medication, indicating that GPs are not a uniform group and have significantly different styles of practice."

Possible external influences on request rates include new MBS item numbers (for example, for care plans detailing the comprehensive care of chronic illnesses) and system changes such as computerisation.

Although increased fear of litigation might be a 'driver' in encouraging more tests as a defensive strategy, it is not generally regarded as a major factor, Dr Harrison says. For example, a study in the Hunter region of New South Wales found the vast majority of requests by GPs were based on clinical indications, rather than patient demand or medicolegal concerns.

The fundamental principles of quality use of pathology are to use the right test in the right patient with the right indication, at the right time, at the right cost and with the right results and the right outcome. However, translating this mantra into practice remains a challenge.

"The diagnostic process is a complicated one, and it is difficult to study how individual doctors' approach the complex, undifferentiated problems they see in general practice," Dr Harrison says. "But the more knowledge that doctors have about pathology, the more appropriately they can use the tests."

Some basic rules can be applied to all types of testing. There is generally good consensus about first-line and second-line investigations. For example, if thyroid disease is suspected then the initial test

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should be for blood levels of thyroid stimulating hormone (TSH). Subsequent tests such as T3 and T4 levels are only needed in most cases if TSH is abnormal. The exceptions to this (the infertile patient or those on thyroxine replacement) are well defined.

Re-test intervals are another area where clear rules can be applied. There is no point repeating HbA1c tests in patients with diabetes in less than about two months, as it reflects long-term blood glucose levels and relate to the average survival time of red blood cells (110 days). INR tests are used to monitor anticoagulation with warfarin. It takes four to seven days for INR to reflect changes in warfarin dose, so conducting the test more often could lead to premature dose adjustments and the possibility of dangerous over- or underdosing. Some information systems in hospitals now have automatic blocking of re-testing within a certain interval, which is especially useful in an environment where many doctors can see a single patient and each order their own set of tests .

Dr Harrison says the Quality Use of Pathology Committee has three main aims. The first is to increase the knowledge and role of patients in their own pathology testing. They should be aware of the nature and purpose of tests, and particularly the implications and need for follow-up. They should become sufficiently informed to make informed decisions regarding their own testing and management.

Second, the Committee wants the development of support for the referral practices of doctors in selecting those patients who need tests and which ones, and then implement this in routine practice, for example as part of e-health systems. These practices should be informed by evidence and facilitated by best practice professional relationships and protocols between referrers and pathologists and maximise health benefit.

Interactions between pathologists and referring doctors include the interpretation of abnormal results, the usefulness of reports to referrers, follow-up of abnormal results, and feedback on the appropriateness of tests.

"Regulations in the past tried to put pathologists at arm's length from requesters, mainly because of concerns about over-servicing," Dr Harrison says. "With the introduction of capped funding, there is now a recognition that pathologists should have a central role in working with referrers to improve the appropriate use of tests. It is in their best interest to encourage quality use."

Finally the Committee is considering the area of laboratory practice – what further improvements can be made to the process of specimen collection, testing and result reporting.

Drs Meerkin, Graves and Harrison all agree that requesting doctors must balance the desire to do everything possible for their patients with an acknowledgment that the health system has finite resources. "I don't think this is a major issue", Dr Graves says. "In any system, we have to work in a framework that the community can afford. It's widely accepted that everyone has a responsibility to make the system work."

GPs NOTE: This article is available for patients at http://pathway.rcpa.edu.au